Air Resources Board

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Manufacturers Advisory Correspondence MAC #2000-01

To: ALL PASSENGER CAR MANUFACTURERS
ALL LIGHT-DUTY TRUCK MANUFACTURERS
ALL MEDIUM-DUTY VEHICLE MANUFACTURERS

Subject: Required Format for Manufacturer Quarterly Audit Reports for 2000 Model Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicle Engine Families Certifying to Compliance Assurance Program (CAP 2000) Regulations.

As a part of the California certification for 2000 model year (MY) engine families/test groups, manufacturers have the option to use the California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty vehicles (CAP-2000 regulations), adopted August 5, 1999. For 2000 MY engine families/test groups certified to these regulations, some manufacturers have not been using the Air Resources Board (ARB) audit report format required by MAC #97-03. This mailout provides vehicle manufacturers with guidelines on how to use the MAC #97-03 format for submitting the required quarterly assembly-line test reports for 2000 MY engine families/test groups certified in California to CAP-2000 regulations for 2001 and subsequent MYs.

The major change in the assembly-line regulations for 2001 and subsequent MYs is that new-vehicle, assembly-line emission testing is no longer required. However, some manufacturers intend to continue to submit their available new-vehicle, assembly-line emission test results to ARB. In addition, the 2001 and subsequent regulations continue to require manufacturers to inspection test all passenger cars, light-duty trucks and medium-duty vehicles subject to these procedures. Each quarter all manufacturers must submit a signed statement that the functional testing has been completed on all vehicles produced for sale in California as has been previously required.

The quarterly reports for 2000 MY engine families certified to the CAP-2000 regulations for 2001 and subsequent MYs are required to include the total test group production of vehicles produced and delivered for sale in California for the quarter, the standards to which the test group is certified, the production start date and the final production date. The required reporting format for these early opt-in engine families/test groups is based on the electronic format identified in Manufacturers' Advisory Correspondence MAC #97-03 with minor changes which are highlighted in the attached copies of the file formats. For those manufacturers not voluntarily reporting assembly-line testing data, only the Engine Family Data Per Quarter File will be needed to report electronically on a quarterly basis. Fields one through sixteen of this file are to be used to provide the required information. Please note that the domains for field seven and fifteen have been modified so that manufacturers can now indicate whether they are voluntarily

including assembly-line test data for the specific engine family/test group or not. For manufacturers voluntarily providing new vehicle assembly-line emission test data, the Individual Data Per Quarter File of MAC #97-03 is to be used to report the individual vehicle test results along with the Engine Family Data Per Quarter File.

Please note that the ARB intends to continue using field name "Engine Family" to refer to certified test groups for 2000 MY vehicles. The columns in the attached descriptions of the files are identified by:

Sequence - Order of the data in the record
Data Name - Name of the data field
Type - Identifies type of the field
C = Characters (i.e. Alpha-Numeric)
N = Numeric
D = Date - **date format should be used**
Length - Specifies the number of characters in each field. For numeric, specifies the number of digits including the decimal, if any.
Range or Domain - Lists the possible inputs or format for the field.
Description - Describes the field.
CAP2000 - If the field is applicable to CAP-2000 engine family/test groups.

To summarize, 2000 MY engine families quarterly electronic and hardcopy reporting can be divided into three groups:

For engine families not certified to CAP-2000 regulations, manufacturers will continue submitting quarterly assembly-line reports using the ARB-specified electronic and hardcopy format of MAC #97-03.

For engine families certified to CAP-2000 regulations with no test data submitted, manufacturers must submit quarterly reports electronically using fields one through sixteen of Engine Family Data Per Quarter File (Attachment 1) and a hardcopy listing all of the engine family/test groups using the ARB-specified format shown in Attachment 2. The standardized electronic format must be followed precisely. All fields must be included in the manufacturer's submittal and any field that does not contain information should be left blank.

For engine families certified to CAP-2000 regulations with test data submitted voluntarily, manufacturers must submit quarterly reports electronically using fields one through sixteen of Engine Family Data Per Quarter File (Attachment 1). Manufacturer submittal of the information in the remaining fields in the Engine Family Data Per Quarter File is optional and manufacturer hardcopy reports may be done using either Attachment 2 format or the hardcopy format provided in MAC #97-03. To submit the quarterly emission test results electronically and hardcopy for individual vehicle tests, manufacturers are asked to use the Individual Data Per Quarter File of MAC # 97-03.

The format for Attachments 1 and 2 are available on disk using Microsoft Excel 7.0. To request a copy of this template or a copy of MAC #97-03, please contact Mr. Satya Devesh, Air Resources Engineer, at (626) 575-6704.

If you have questions regarding this matter, please contact Ms. Maggie Wilkinson, Manager, Vehicle/Engine Audit Section at (626) 575-7040 or Mr. Satya Devesh, Air Resources Engineer, at (626) 575-6704.

Sincerely,

/s/

R. B. Summerfield, Chief
Mobile Source Operations Division

Attachments:
Production reporting format

ENGINE FAMILY DATA PER QUARTER FILE

Sequence	Data Name	Type	Length	Range or Domain	Description
1	QTR	C	2	example: for 2000 model year vehicles Q1 = Jan-Mar 2000 Q5 = Jan-Mar 2000 Q2 = Apr-Jun 2000 Q6 = Apr-Jun 2000 Q3 = Jul-Sep 2000 Q7 = Jul-Sep 2000 Q4 = Oct-Dec 2000 Q8 = Oct-Dec 2000	Engine family production quar
2	MFR	C	4	examples: GM, NISS, BENZ See Codes for Manufacturers.	Name of the manufacturer.
3	ENG_FAM	C	12	example: WXMXV3.02EK See EPA designation	12-digit name for engine famil
4	VEHCLASS	C	2	PC = Passenger Car T1 = LDT (0 - 3750 lbs.) T2 = LDT (3751 - 5750 lbs.) M1 = MDV (0 - 3750 lbs.) M2 = MDV (3751 - 5750 lbs.) M3 = MDV (5751 - 8500 lbs.)	Types of Vehicle
5	CODETYPE	C	3	CA = California certified 49S = 49-state certified 50S = 50-state certified	Defines this engine family as c standards
6	STANDARD	C	5	TIER1 = current new standards TLEV = Transition low emission vehicle LEV = Low emission vehicle ULEV = Ultra low emission vehicle SULEV=Super low emission vehicle ZEV = Zero emission vehicle 965T1 = AB965 Tier1 standards	Standard level this engine fam
7	OPTS	C	1	1 = Option (i) load canister on-board 2 = Option (ii) load slave canister 3 = Option (iii) canister loading factor (CLF) 4 = Option (iv) CLF with slave canister **C = Certified to CAP-2000** D= certified to 100K optional diesel standards	Column to identify canister loa family/test group is certified fo 100K optional diesel standard
8	DRIVE	C	2	2F = 2 wheel drive, front 2R = 2 wheel drive, rear 4F = 4 wheel drive, Full-time 4P = 4 wheel drive, Part-time	Drive type
9	START_UP	D	10	example: July 20, 2000 = 07/20/2000	Start date **(in date format)** of quarter after start up.

10	BUILDOUT	D	10	example: December 12, 2000 = 12/12/2000	Engine family build-out date **(i** production. Leave blank until
11	DISTR_49	N	5	0 to 50000	Number of vehicles produced quarter.
12	CA_DISTR	N	5	0 to 50000	Number of vehicles produced
13	PRODSIZE	N	5	0 to 99999	Total number of vehicles prod
14	SAMPSIZE	N	4	0 to 999	Number of vehicles sampled /
15	SAMPLOPT	C	3	**CY = Voluntary data for CAP-2000 test group** **CN = No test data for CAP-2000 test group** '2.0 = required 2% or greater sampling 1.0 = 1% sample rate for FFVs and DFVs 50S = 50-state certified eng. family alt. sampling ALT = alternate reduced sampling all 3 months A12 = alt. sampling 1st and 2nd mo. A23 = alt. Sampling 2nd and 3rd mo. A13 = alt. sampling 1st and 3rd mo. A1 alt. sampling 1st mo. only A2 alt. sampling	Sampling option used this qua
16	TESTFUEL	C	3	IND = Indolene PH2 = Phase II gasoline M85 = 85% Methanol CNG = Compressed Natural Gas LPG = Liquefied Petroleum Gas E85 = 85% Ethanol Diesel: N13 = 13 CCR 2282	Fuel type used for evaluation

ENGINE FAMILY DATA PER QUARTER FILE

Sequence	Data Name	Type	Length	Range or Domain	Description

17	QAFUEL	C		IND = Indolene PH2 = Phase II gasoline M85 = 85% Methanol CNG = Compressed Natural Gas LPG = Liquefied Petroleum Gas E85 = 85% Ethanol Diesel: N13 = 13 CCR 2282	Fuel type used during QA test (sequence #16)
18	NMHCMEAN	N	1.4	0.0000 to 9.9999	NMHC/OMNMHCE (Methano engine family for the stated re applied)
19	NMHC_SD	N	1.4	0.0000 to 9.9999	NMHC/OMNMHCE (Methano engine family for the stated re applied)
20	NMOGMEAN	N	1.4	0.0000 to 9.9999	NMOG mean (in g/mi) of this reporting period (Qtr) (no DFs
21	NMOG_SD	N	1.4	0.0000 to 9.9999	NMOG standard deviation of reporting period (Qtr) (no DFs
22	CO_MEAN	N	2.2	0.00 to 99.99	CO mean (in g/mi) of this eng period (Qtr) (no DFs applied)
23	CO_SD	N	2.2	0.00 to 99.99	CO standard deviation of this reporting period (Qtr) (no DFs
24	NOXMEAN	N	1.3	0.000 to 9.999	NOX mean (in g/mi) of this e period (Qtr) (no DFs applied)
25	NOX_SD	N	1.3	0.000 to 9.999	NOX standard deviation of thi reporting period (Qtr) (no DFs
26	PM_MEAN	N	1.3	0.000 to 9.999	PM mean (in g/mi) of this eng period (Qtr) (no DFs applied)
27	PM_SD	N	1.3	0.000 to 9.999	PM standard deviation of this reporting period (Qtr) (no DFs
28	HCHOMEAN	N	1.4	0.0000 to 9.9999	HCHO mean (in g/mi) of this reporting period (Qtr) (no DFs
29	HCHO_SD	N	1.4	0.0000 to 9.9999	HCHO standard deviation of t reporting period (Qtr) (no DFs
30	CO2MEAN	N	3.1	0.0 to 999.9	CO2 mean (in g/mi) of this eng period (Qtr)
31	CO2_SD	N	3.1	0.0 to 999.9	CO2 standard deviation of this reporting period (Qtr)
32	NMHCMEAN5	N	1.4	0.0000 to 9.9999	50K NMHC/OMNMHCE (Meth this engine family for the state

33	NMHC_SD5	N	1.4	0.0000 to 9.9999	50K NMHC/OMNMHCE (Meth this engine family for the state
34	NMOGMEAN5	N	1.4	0.0000 to 9.9999	50K NMOG mean (in g/mi) of reporting period (Qtr)
35	NMOG_SD5	N	1.4	0.0000 to 9.9999	50K NMOG standard deviation reporting period (Qtr)
36	CO_MEAN5	N	2.2	0.00 to 99.99	50K CO mean (in g/mi) of this reporting period (Qtr)
37	CO_SD5	N	2.2	0.00 to 99.99	50K CO standard deviation of reporting period (Qtr)
38	NOXMEAN5	N	1.3	0.000 to 9.999	50K NOX mean (in g/mi) of th reporting period (Qtr)
39	NOX_SD5	N	1.3	0.000 to 9.999	50K NOX standard deviation o reporting period (Qtr)
40	PM_MEAN5	N	1.3	0.000 to 9.999	50K PM mean (in g/mi) of this reporting period (Qtr)
41	PM_SD5	N	1.3	0.000 to 9.999	50K PM standard deviation of reporting period (Qtr)
42	HCHOMEAN5	N	1.4	0.0000 to 9.9999	50K HCHO mean (in g/mi) of reporting period (Qtr)
43	HCHO_SD5	N	1.4	0.0000 to 9.9999	50K HCHO standard deviation reporting period (Qtr)
44	NMHCMEAN1	N	1.4	0.0000 to 9.9999	100K NMHC/OMNMHCE (Met this engine family for the state

ENGINE FAMILY DATA PER QUARTER FILE

Sequence	Data Name	Type	Length	Range or Domain	Description
45	NMHC_SD1	N	1.4	0.0000 to 9.9999	100K NMHC/OMNMHCE (Met of this engine family for the sta
46	NMOGMEAN1	N	1.4	0.0000 to 9.9999	100K NMOG mean (in g/mi) o reporting period (Qtr)
47	NMOG_SD1	N	1.4	0.0000 to 9.9999	100K NMOG standard deviatio stated reporting period (Qtr)
48	CO_MEAN1	N	2.2	0.00 to 99.99	100K CO mean (in g/mi) of th reporting period (Qtr)
49	CO_SD1	N	2.2	0.00 to 99.99	100K CO standard deviation o reporting period (Qtr)
50	NOXMEAN1	N	1.3	0.000 to 9.999	100K NOX mean (in g/mi) of t reporting period (Qtr)
51	NOX_SD1	N	1.3	0.000 to 9.999	100K NOX standard deviation reporting period (Qtr)
52	PM_MEAN1	N	1.3	0.000 to 9.999	100K PM mean (in g/mi) of th reporting period (Qtr)
53	PM_SD1	N	1.3	0.000 to 9.999	100K PM standard deviation o reporting period (Qtr)

54	HCHOMEAN1	N	1.4	0.0000 to 9.9999	100K HCHO mean (in g/mi) o reporting period (Qtr)
55	HCHO_SD1	N	1.4	0.0000 to 9.9999	100K HCHO standard deviatic stated reporting period (Qtr)